

We claim:

1. A process for extracting 2-keto-L-gulonic acid (KGA) from a polar solvent, which process comprises the following step:
 - 5 (a) extraction of the 2-keto-L-gulonic acid from the polar, preferably aqueous, solvent with an extractant 1 comprising a tertiary amine of the formula
$$\begin{array}{c} \text{R1}-\text{N}-\text{R2} \\ | \\ \text{R3} \end{array}$$
where R1, R2 and/or R3 is in each case a saturated unbranched or branched alkyl radical having, independently of one another or simultaneously, 6 to 14 carbon atoms; and a polar organic diluent; and where the extractant 1 has a miscibility gap with the solvent.
- 10 2. A process as claimed in claim 1, where the solvent comprises ascorbic acid and 2-keto-L-gulonic acid.
- 15 3. A process as claimed in claim 1 or 2, where the alkyl radical R1, R2 and/or R3 comprises in each case 8 to 12 carbon atoms.
- 20 4. A process as claimed in any of claims 1 to 3, where the tertiary amine is tri-n-octylamine and/or tri-n-decyldamine.
- 25 5. A process as claimed in any of claims 1 to 4, where the diluent is a saturated branched or unbranched alkyl alcohol having 4 to 14 carbon atoms or an amide or an aromatic compound.
- 30 6. A process as claimed in any of claims 1 to 5, where the diluent is i- or n-dodecanol.
7. A process as claimed in any of claims 1 to 6, where the ratio of tertiary amine of the formula I to the diluent is from 20:80 to 80:20, preferably 40:60.
- 35 8. A process as claimed in any of claims 1 to 7, comprising the following further step:
 - (b) back-extraction of the KGA from the loaded extractant 1 with a polar extractant 2, resulting in a KGA-loaded extractant 2.

9. A process as claimed in claim 8, where extractant 2 and the solvent consist essentially of the same solvent components.

10. A process as claimed in claim 9, where die extraction temperature T_1 is from 5°C to 5 100°C lower than the back-extraction temperature T_2 .

11. A process as claimed in any of claims 8 to 10, comprising the following further step:
(c) recycling of extractant 1 from which the KGA was back-extracted in step (b) into the extraction of step (a).

12. A process as claimed in any of claims 8 to 11, comprising the following further step:
(d) recycling of the KGA-loaded extractant 2 from the back-extraction in step (b) into a process for preparing ascorbic acid from KGA.

13. A process as claimed in claim 12, comprising the following further steps:
(e) concentration of the KGA-loaded extractant 2 before the recycling in step (d); and
(f) optionally, recycling of the vapors from the evaporation in (e) as extractant 2 in step (b).

14. A process as claimed in claim 13, comprising at least one of the following further steps:
(g) washing of the KGA-loaded extractant 1 with the solvent or with the mother liquor from the crystallization of ascorbic acid from the solvent and combining of the ascorbic acid-containing wash solution with the ascorbic acid-loaded solvent in step (a);
(h) concentration of the ascorbic acid-loaded solvent 1; and
(i) recycling of the solvent discharge from step (h) into the back-extraction in step (b) as extractant 2.

15. The process as claimed in claim 14, comprising the following further steps:
(j) isolation of the ascorbic acid from the ascorbic acid-loaded solvent, with a mother liquor remaining behind; and
(k) optionally, recycling of the mother liquor from step (j) into the concentration in step (h).

16. A process for preparing ascorbic acid, which comprises the following steps:
i. lactonization of 2-keto-L-gulonic acid;

- ii. extraction of the KGA from the ascorbic acid/KGA mixture as set forth in any of claims 2 to 12; and
- iii. isolation of the ascorbic acid from the ascorbic acid-loaded solvent.

5 17. A process as claimed in claim 16, where partial lactonization is carried out.